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Fall, 1988
Volume Six - Number Two

MONTANA SOICC NEWSLETTER

MONTANA SOICC
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Service Industry Shift Continues to 2000

What does the future hold in regards to Montana's career and employment prospects? What changes are happening in the workplace? What occupations are expected to grow? What occupations will decline?

Understanding and anticipating changes in the workplace can enable one to prepare for Montana's employment in the future. Major factors that affect Montana's future career and employment prospects to the year 2000 include patterns in the growth of employment among various industries in Montana, changes in technology, productivity changes, changes in skill requirements for jobs, and changes in the workplace.

Nationally, the shift to a "service economy" will be perhaps the single most important factor influencing the growth of new job markets in the future. Basically a service economy is one in which more jobs are to be found in providing services than in creating tangible products, such as manufacturing, agriculture, and other goods-producing industries. Typical service economy jobs are in transportation and retailing, education and health care, finance and real estate, and government and utilities.

Since 1957 more Americans have been employed in service industries than in goods-producing industries. Some historians have divided our economic history into three periods: the Agricultural Era (from 1620 to 1900), the Industrial Era (from 1900 to 1957) and the Post-Industrial or Service-Industries Era (from 1954 to the present).

These various periods are convenient ways of talking about basic changes that have occurred in jobs for Americans. American society has changed much during and between each of these economic periods. We anticipate at least as many changes in a person's work career in the future as we have seen in the past.

Nationally, employment will increase considerably in many occupations between 1986 and the year 2000. The number of technicians and related support workers will grow 38 percent, and public service workers by 31 percent. In contrast, operators, fabricators and laborers will grow only three percent, while agricultural, forestry and fishing workers will actually decline in number.

Much of what is projected for the United States as a whole is also projected for Montana's future. Between 1986 and the year 2000 some 49,900 new jobs are projected for Montana. By the year 2000, 87 percent of Montana's wage and salary jobs are projected to be found in the service-producing industries.

Service Industries

Montana's greatest job opportunities for the future are located in the business and consumer services area. These jobs will increase by over 29 percent, while sales jobs follow at a close second when new wholesale and retail sales jobs are combined. These three categories--business/consumer services jobs, wholesale and retail sales--will account for 75 percent of Montana's new jobs by the year 2000.

Sales jobs are easy to understand since they remind us of the sales clerks and door-to-door salesmen that we see often. But just what are business/consumer services jobs, and which ones will be in demand?

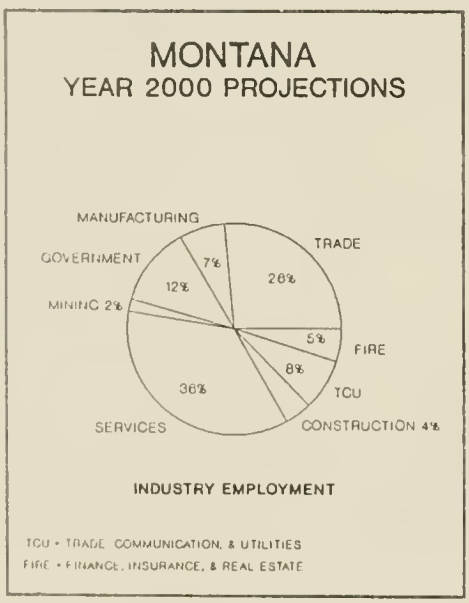
Business/consumer services jobs include a wide variety of occupations: health services, educational services, business services, and other services occupations. These occupations will provide the greatest opportunities for jobs, with legal services, social services, and personal services representing respectable opportunities for jobs as well.

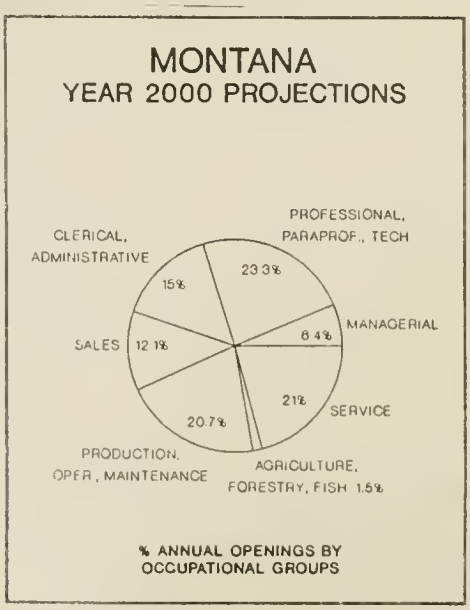
Goods-Producing Industries

Overall, there will be very modest growth in Montana's goods-producing industries. Agricultural workers, farmers and ranchers, along with other self-employed people in small businesses, have traditionally made up about a quarter of our state's employed workers. No projections are currently available about growth in the self-employed sector for Montana to the year 2000, but national trends indicate that we should not anticipate any growth in agricultural employment.

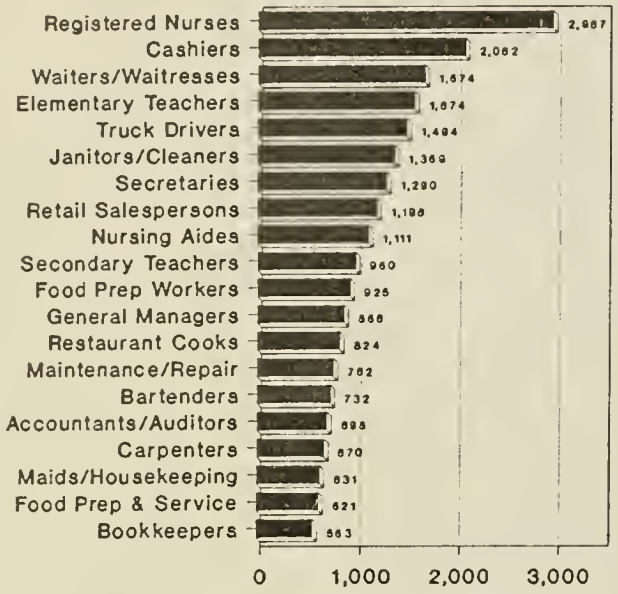
Small businesses--particularly businesses with less than one hundred workers--nationally have experienced some of the largest increases in new jobs. Depending on the number of such self-employed people operating small businesses in Montana, decreases in agricultural jobs may well be balanced out by increases in jobs in small businesses. Many of Montana's small businesses are service-producing rather than goods-producing industries.

Modest increases from the traditional numbers of people employed in other goods-producing industries, such as construction, mining, precision production, textiles, apparel, furniture, and hand workers and assemblers are projected.





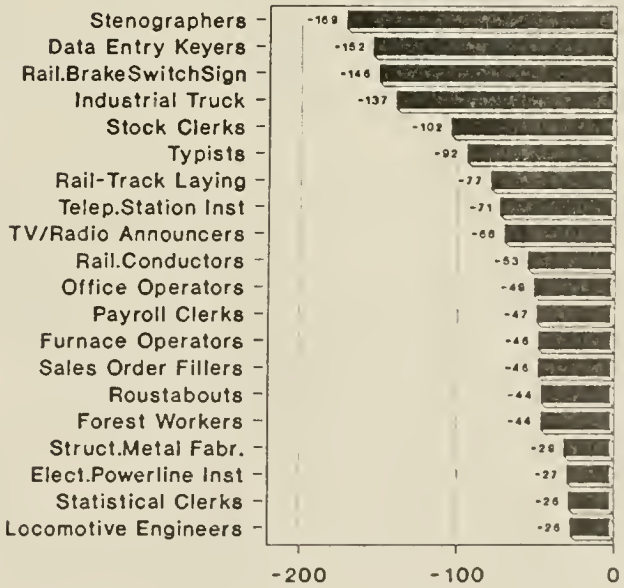
MONTANA
HIGH GROWTH OCCUPATIONS
Job Openings to the Year 2000



Source: OES Matrix, MT Table H

High growth occupations are occupations with the largest number of projected annual openings to the year 2000.

MONTANA
DECLINING OCCUPATIONS
Job Openings to the Year 2000

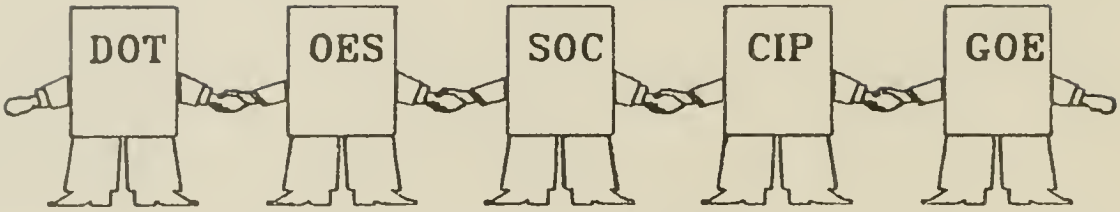


Source: OES Matrix, MT Table H

Declining occupations are occupations with the smallest number of projected annual openings to the year 2000.

SOURCES: Montana Occupational Employment Statistics (OES) Matrix; "Workforce to the Year 2000: Opportunities and Challenges," Montana Department of Labor and Industry

NOICC Crosswalk



The new National Occupational Information Coordinating Committee (NOICC) Master Crosswalk for occupational and educational classification systems is now available.

What is the NOICC Master Crosswalk? The crosswalk is a computerized database that shows relationships among the five major occupational and educational classification systems used by the federal government. Using the crosswalk, data classified according to each of the classification systems can be related to all of the other systems.

The crosswalk contains data from the Dictionary of Occupational Titles (DOT), the Occupational Employment Statistics (OES), the Standard Occupational Classification (SOC), the Classification of Instructional Programs (CIP), and the Guide for Occupational Exploration (GOE).

The NOICC Master Crosswalk has been revised to include nearly 500 new occupations and updated characteristics of nearly 400 others.

Juliette Noone Lester, NOICC executive director, said the master crosswalk now includes "the latest occupational and educational program classifications available from the federal government."

The new crosswalk is available from the National Crosswalk Service Center (NCSC) on data tape or microcomputer diskettes. For more information, contact Steve Rosenow, NCSC, Iowa State Occupational Information Coordinating Committee, 200 East Grand Avenue, Des Moines, Iowa 50309; phone (515) 281-4231.

Kaleidoscope of Careers

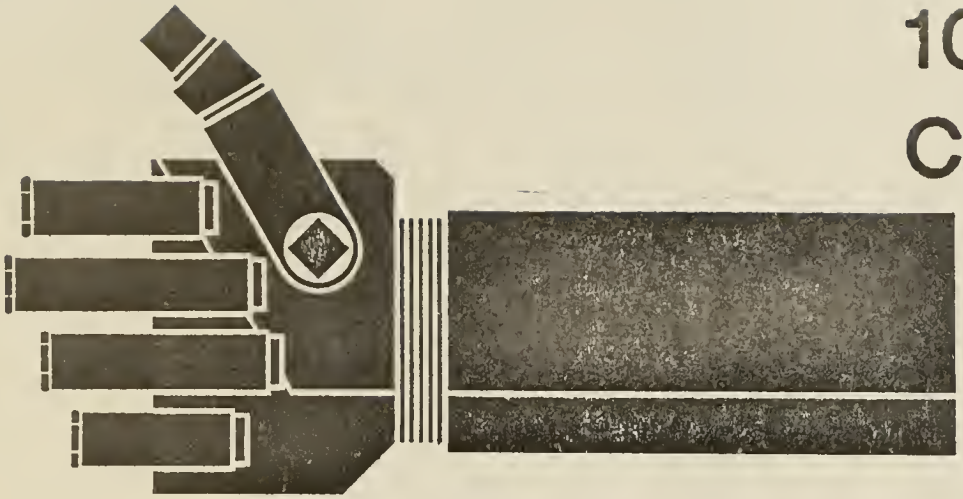
Kaleidoscope of Careers is a video presentation developed for high school and middle school users. The set of five half-hour videotapes presents occupational and educational information for a total of 200 occupations.

Each occupation is defined and shows workers performing on the job so that students will get a realistic view of a typical workday. "Rap" music introductions to the clusters are used to grab junior and senior high students' attention.

Kaleidoscope of Careers is an excellent video companion to the Occupational Outlook Handbook and career information delivery systems. A user manual with curriculum suggestions comes with the videotape set.

The tapes are available on VHS or Beta format. The only equipment necessary is a VCR and monitor. **Kaleidoscope of Careers** cost is $150 for the set of five tapes and the user manual. (The price increase is effective as of September 1, 1988.)

If you are interested in ordering **Kaleidoscope of Careers**, please write to the Montana SOICC, P.O. Box 1728, Helena, Montana 59624.



10 HIGH-TECH CAREERS FOR TOMORROW

Vocational education will be the training ground for the labor force of the future, which will desperately need high-tech workers. These are just a handful of the emerging high-tech jobs that will require millions of workers by the next decade.

TITLE AND DESCRIPTION:	PROJECTED MID-RANGE SALARY
Biomedical equipment technician. Maintains high-tech medical equipment in hospitals, clinics, etc.	$22,000
Bionic-medical technician. Manufactures bionic body parts and highly sophisticated extensions of sensory & mental functions (seeing, hearing, touch, speech, etc.).	$32,000
CAD/CAM drafting technician. Works with computers that assist design (computer-aided design, or CAD) and manufacturing (computer-assisted manufacturing, or CAM) of products, systems, and structures.	$22,000
Cellular technician. Troubleshoots and repairs mobile phones in cars, buses, trucks, and boats.	$23,000
Emergency medical technician. Uses high-tech machinery and techniques to provide emergency medical care.	$20,000
Holographic inspection specialist. Works with completely automated factories that use optical fibers to transmit information to computers to compare this data with stored holographic, three-dimensional images.	$28,000
Laser technician. Constructs and maintains laser manufacturing equipment.	$25,000
Microwave engineering technician. Assembles, builds, and tests microwave (high-frequency energy that penetrates matter) components for radar, space communications, industry, etc.	$25,000
Robot design technician. Designs and construct automation systems used in robots.	$35,000
Robot technician. Ensures efficient operation of production robots, which perform computer-directed tasks formerly done by human assembly-line workers.	$24,000

SOURCES: Occupational Forecasting, Inc.; "140 High-Tech Careers" by Bob Weinstein (MacMillan Publishing Company); Marvin Cetron; Career Success Magazine

Is College Becoming a Juggling Act?

By Professor Ross Webber, Wharton School of the University of Pennsylvania

Many parents attending college commencements this spring might be surprised by a modest jeering directed at business-school graduates. The jeers will come from liberal-arts students who regard business students as money-grubbers insensitive to the finer aspects of philosophy and life. Business students, in turn, argue that most liberal-arts students are premed, prelaw or hopelessly idealistic dilettantes.

But the distinction between arts on the one hand and management education on the other is spurious. The challenges confronting society today are such that we can afford neither narrowly focused practical managers nor diffuse idealists.

When Benjamin Franklin founded the University of Pennsylvania in 1740, he admonished the fledgling college to teach the "useful" and the "ornamental." **Useful** doesn't mean just business or preprofessional. I tell my students that through stints as a naval officer, an industrial engineer, a management professor and a university vice president, the college courses I have had the most opportunity to **use** were in art. Why? Because no other subject has so facilitated conversation and personal pleasure.

If the study and amateur practice of painting have been the most useful elements of my college education, statistics has been the most personally liberating. Understanding probability theory helped me escape from a naively mechanistic and moralistic view of the world. Grasping the meaning of randomness can provide protection from anger and guilt, especially when the good, the bad and the ugly seem to occur without reference to the character of the people involved.

It's time to discard outmoded value judgments about liberal and applied courses. Understanding managerial accounting is every bit as educationally liberating as studying Greek drama is useful in understanding the motivation of merger-and-acquisition specialists on Wall Street.

At a minimum, undergraduates should be able to pursue dual majors or a major and a minor--in English and marketing, management and history, or music and accounting. We need liberal arts and business students grounded in the history from which they have emerged, the technological realities of the world they inhabit, the social forces to which they are subject, the aesthetic heights to which they can aspire and the managerial tools that will enable them to lead.

SOURCE: U.S. News & World Report, June 6, 1988

FREE OCCUPATIONAL RESOURCES

The 1988 edition of the **Montana Supply/Demand Report** has been updated, and will be published and distributed in October.

The **Montana Supply/Demand Report** is designed to assist program planners in making decisions about establishing, terminating, or improving existing training programs in Montana. Training programs designed to prepare individuals for specific occupations must be realistic in light of the anticipated job openings (demand) and the expected number of persons available for and prepared to fill them (supply).

Occupational information can serve as a valuable asset to planners. Access to this information offers planners a broad perspective of employment needs and an efficient means of learning about Montana labor market conditions.

Data is available for three major categories in the **Montana Supply/Demand Report**:

- **Occupational Demand** -- 1986 base year and projected occupational employment and average annual openings to 1995 for Montana.
- **Occupational Supply** -- The number of program completers by training program from Montana's training institutions.
- **Supplemental Analysis Data** -- Additional data which includes the number of apprenticeship completers, military returnees to the state, Job Service applicants and openings, and average hourly wage for analysis purposes.

The **Montana Micro-Occupational Information System (Micro-OIS)** has also been updated. The 1988 version of the **Micro-OIS** will be ready for distribution in October.

The **Micro-OIS** contains the same data as the Montana Supply/Demand Report, but also provides the capability to produce tailored reports through the use of search routines of its database files. All data categories mentioned above are accessible through the **Micro-OIS**.

The **Micro-OIS** is available on two "run-time version" diskettes for use on an IBM Personal Computer or IBM compatible personal computer. The **Micro-OIS** can also be installed on a hard disk IBM or compatible personal computer. If you are interested in the **Micro-OIS** and have the equipment mentioned above, call the SOICC at 444-2741. **There is no charge for the Micro-OIS**.

Career Information Study Begins

How does the use of career information benefit economically disadvantaged individuals? Answering this question is the goal of a comprehensive study being undertaken by the Montana Career Information System (MCIS), with the assistance of the Department of Vocational Education Services within the Office of Public Instruction. Funded through Job Training Partnership Act (JTPA) funds, the study will examine current uses of career information, generate recommendations for changes and result in an implementation plan for improvements to the system. For more information, contact Anne Wolfinger, MCIS Manager at 442-5535.

Kate Kahle, Editor
Montana SOICC Newsletter
Volume Six - Number Two

Robert N. Arnold
Program Officer
Montana SOICC

If you would like to contribute to this newsletter, contact the Montana SOICC at P.O. Box 1728, Helena, Montana 59624. The Montana SOICC reserves the right to edit all information submitted.

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